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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,608	03/07/2001	Martin W. McKinnon III	A-8975	7465

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SCIENTIFIC-ATLANTA, INC.
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EXAMINER

DUONG, THOMAS

ART UNIT	PAPER NUMBER
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2145

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/29/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/29/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

Office Action Summary

Application No.

09/800,608

Applicant(s)

MCKINNON ET AL.

Examiner

Thomas Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 and 48-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 and 48-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.
2. Amendment received January 3, 2007 has been entered into record. *Claims 1-38 and 48-58* remain pending.

Response to Amendment

3. This office action is in response to the applicants Amendment filed on January 3, 2007. Applicant amended *claims 1, 15-20, 23, and 48*. *Claims 1-38 and 48-58* are presented for further consideration and examination.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
5. *Claims 15-20* are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter, which is not described

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in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not show how a *"step of determining forecasted network usage"* is accomplished by monitoring the current usage of the network. Please clarify the language of the claim.

6. Claims 15-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not show how a *"step of determining forecasted network usage"* is accomplished by monitoring the current usage of the network. Please clarify the language of the claim.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 14, 24, and 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. With regards to claim 14, Applicants recite the limitation,

- *"wherein said step of monitoring"*

There is insufficient antecedent basis for the limitation of "*said step of monitoring*" in *claim 14*. There is no mention of a "*step of monitoring*" in order to provide antecedent basis for "*said step of monitoring*".

10. With regards to *claims 24 and 27-29*, Applicants recite the limitation,

- "*said monitored network access usage*"

There is insufficient antecedent basis for this limitation in the claims. There is no mention of a monitoring step in *claim 1* to provide antecedent basis for the limitation of "*said monitored network access usage*".

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. *Claims 1-8 and 48-58* are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (US006542593B1), in view of Takagi (US005881231A), further in view of O'Flaherty et al. (US006253203B1), and further in view of Tunnicliffe et al. (US006272110B1).

13. With regard to *claims 1 and 48*, Bowman-Amuah discloses,

- (b) comparing said forecasted network access usage by each user with a predetermined threshold value; and (Bowman-Amuah, col.51, lines 42-63; col.52, lines 49-54)

Bowman-Amuah teaches of "[determining] a current level of service and compare the current level of services with the minimum level of service that the service provider can provide without violating SLAs" (Bowman-Amuah, col.52, lines 51-54).

- (c) in response to comparing, determining at least one candidate for modification of an SLA; (Bowman-Amuah, col.21, line 22 - col.23, line 11; col.51, lines 42-63; col.52, lines 49-54)

Bowman-Amuah discloses, "the Network Performance goals are tracked, and that notification is provided when they are not met (threshold exceeded, performance degradation)... This includes information on capacity, utilization, traffic and usage collection. In some cases, changes in traffic conditions may trigger changes to the network for the purpose of traffic control. Reduced levels of network capacity can result in requests to Network Planning for more resources" (Bowman-Amuah, col.21, lines 34-43). Hence, Bowman-Amuah teaches of performance tracking including capacity, utilization, traffic and usage collection, and, in some cases, changing the network for the purpose of traffic control based on this information. In addition, Bowman-Amuah discloses, "for SLA violations, the process supports notifying Problem Handling and QoS violations, notifying Service Quality Management 136. The aim is to provide effective monitoring. Monitoring and reporting must provide SP management and customers meaningful and timely performance information across the

parameters of the services provided. The aim is also to manage service levels that meet specific SLA commitments and standard service commitments" (Bowman-Amuah, col.22, lines 24-32). Hence, Bowman-Amuah teaches of notifying management of SLA violations, which can be over/under usage/utilization of the current thresholds; so that management can "[take] appropriate action to keep service levels within agreed targets for each service class and to either keep ahead of demand or alert the sales process to slow sales" (Bowman-Amuah, col.22, lines 54-57). In addition, Bowman-Amuah discloses, "in step 174, quality management network data is determined and, in step 176, the quality management network data is generated. Such quality management network data may include constraint data, capacity data, service class quality data, service modification recommendations, additional capacity requirements, performance requests, and/or usage requests" (Bowman-Amuah, col.23, lines 3-9). Hence, Bowman-Amuah suggests that, in the case, where a particular customer's expected usage/utilization will increase, then appropriate actions, such as recommending/renegotiating the terms of the SLA and increasing the upper usage/utilization threshold, will need to be taken.

However, Bowman-Amuah do not explicitly disclose,

- *(a) determining forecasted network access usage by each user during a future time interval;*

Takagi teaches,

- *(a) determining forecasted network access usage by each user during a future time interval;* (Takagi, col.1, line 7 – col.41, line 17)

Takagi discloses, *"first, the utilization status prediction unit 12 is provided in order to predict 'which information will be required by the user at which timing' and 'what kind of a network environment will be available'. This utilization status prediction unit 12 predicts the utilization status/environment of the terminal in future which changes according to the user activity, on a basis of the utilization prediction knowledge 17"* (Takagi, col.8, lines 49-56). Hence, Takagi teaches of predicting (i.e., Applicants' forecasting) the network utilization status/environment for a time period in the future based on the user's activity.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Takagi with the teachings of Bowman-Amuah to *"[provide] capability to analyze management data looking for patterns and correlations across multiple dimensions. The system also constructs models of the behavior of the data in order to predict future growth or problems and facilitate managing the network in a proactive, yet cost-effective manner"* (Bowman-Amuah, col.57, lines 44-50).

However, Bowman-Amuah and Takagi do not explicitly disclose,

- *(d) filtering at least one candidate against a list of candidates for which a solicitation is not to be made; and*

O'Flaherty teaches,

- *(d) filtering at least one candidate against a list of candidates for which a solicitation is not to be made; and* (O'Flaherty, col.2, lines 53 – col.3, line 23; col.9, lines 13-52)

O'Flaherty discloses, *"any customer who has opted out from receiving marketing solicitations ... be omitted from any contact list created by the marketing*

application" (O'Flaherty, col.9, lines 20-23). In addition, according to O'Flaherty, *"direct marketing' could be broken out into separate opt-outs for contact by telephone, direct mail, and electronic mail, and a catchall for 'other' action"* (O'Flaherty, col.9, lines 39-41). Hence, O'Flaherty teaches of not sending solicitations to users who have opted out from receiving solicitations by performing a check against the relevant databases. In addition, O'Flaherty discloses, *"opt-out view 266 permits the use of information for purposes of making automated decisions with action applications 110D, such as those which implement phone or mail solicitations. Views into this information are controlled by the flag in column 228. Alternatively, the value stored in column 228 may comprise a character to not only define that solicitation is permitted, but to indicate what kind and scope of permitted solicitation"* (O'Flaherty, col.9, lines 44-52). Hence, O'Flaherty teaches of checking against an *"opt-out"* list to determine whether permission to contact a particular individual is given or not; and, if permission is given, what kind and scope of permission is given/specified by the individual.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of O'Flaherty with the teachings of Bowman-Amuah and Takagi to enable the customer, as well as the service provider, to take the proper action based on the bandwidth usage information and the service level agreement. In addition, according to O'Flaherty, *"what is needed is a system and method which provides all the advantages of a complete data warehousing system, while addressing the privacy concerns of the consumer"* (O'Flaherty, col.2, lines 47-50).

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However, Bowman-Amuah, Takagi, and O'Flaherty do not explicitly disclose,

- *(e) soliciting at least one filtered candidate to modify an SLA related to that candidate.*

Tunncliffe teaches,

- *(e) soliciting at least one filtered candidate to modify an SLA related to that candidate.* (Tunncliffe, col.2, lines 5-22)

Tunncliffe teaches that *"the service provider has an advantage in that he knows in advance that the agreed levels may be exceeded and he can analyse the network in advance to see if extra bandwidth can be allocated"* (Tunncliffe, col.2, lines 15-18) and, if so, *"the service provider could then make an offer to sell extra bandwidth to the customer"* (Tunncliffe, col.2, lines 18-19). Furthermore, according to Tunncliffe, *"equally, if the agreed bandwidth levels will be under-utilised by the customer then both parties can make use of this information in a similar way"* (Tunncliffe, col.2, lines 19-22). Tunncliffe discloses utilizing *"a threshold value which may be for example, the maximum amount of bandwidth that a customer is allows to use on his virtual private network, as specified in the service level agreement between the customer and the network provider or operator"* (Tunncliffe, col.3, lines 31-35). Hence, Tunncliffe anticipates of the network provider negotiating with the end user to modify the SLA due to the network utilization exceeding the predetermined threshold amount.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Tunncliffe with the teachings of Bowman-Amuah, Takagi, and O'Flaherty to enable the customer, as well as the

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service provider, to take the proper action based on the bandwidth usage information and the service level agreement.

14. With regard to claims 2-3, Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe disclose,

- *wherein the threshold value represents a respective maximum level of network access for each user. (Bowman-Amuah, col.21, lines 34-43; col.51, lines 6-20, lines 37-41)*
- *wherein the threshold value represents a respective maximum burstable level of network access with target probability for each user. (Bowman-Amuah, col.21, lines 34-43; col.51, lines 6-20, lines 37-41)*

15. With regard to claims 4-8 and 49-53, Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe disclose,

See *claims 1 and 48* rejection as detailed above.

However, Bowman-Amuah and O'Flaherty do not explicitly disclose,

- *wherein said step of soliciting a user comprises contacting a user comprises contacting the user via email.*
- *wherein said step of soliciting a user comprises contacting a user comprises contacting the user via instant messaging.*
- *wherein said step of soliciting a user comprises contacting the user via redirection of a web browser of the user to a solicitation web page.*
- *wherein said step of soliciting a user comprises contacting the user via generation and mailing of literature.*

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- *wherein said step of soliciting a user comprises contacting the user via a telephonic communication.*

Tunncliffe teaches,

- *wherein said step of soliciting a user comprises contacting a user comprises contacting the user via email. (Tunncliffe, col.3, lines 31-41; col.2, lines 5-22)*
- *wherein said step of soliciting a user comprises contacting a user comprises contacting the user via instant messaging. (Tunncliffe, col.3, lines 31-41; col.2, lines 5-22)*
- *wherein said step of soliciting a user comprises contacting the user via redirection of a web browser of the user to a solicitation web page. (Tunncliffe, col.3, lines 31-41; col.2, lines 5-22)*
- *wherein said step of soliciting a user comprises contacting the user via generation and mailing of literature. (Tunncliffe, col.3, lines 31-41; col.2, lines 5-22)*
- *wherein said step of soliciting a user comprises contacting the user via a telephonic communication. (Tunncliffe, col.3, lines 31-41; col.2, lines 5-22)*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Tunncliffe with the teachings of Bowman-Amuah and O'Flaherty to enable the customer, as well as the service provider, to take the proper action based on the bandwidth usage information and the service level agreement.

16. With regard to claims 11 and 58, Bowman-Amuah, Takagi, O'Flaherty, and Tunncliffe disclose,

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See *claims 1 and 48* rejection as detailed above.

However, Bowman-Amuah and O'Flaherty do not explicitly disclose,

- *further comprising charging the user a fee for the modification of the SLA.*

Tunncliffe teaches,

- *further comprising charging the user a fee for the modification of the SLA.*

(Tunncliffe, col.1, lines 23-25, lines 32-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Tunncliffe with the teachings of Bowman-Amuah and O'Flaherty to enable the customer, as well as the service provider, to take the proper action based on the bandwidth usage information and the service level agreement.

17. With regard to *claims 14-17 and 20*, Bowman-Amuah, Takagi, O'Flaherty, and Tunncliffe disclose,

- *wherein said step of monitoring network access includes collecting data representative of the number of logical data units transmitted from and to each user during a time interval.* (Bowman-Amuah, col.21, lines 22-26, lines 34-39; col.22, lines 27-32, lines 46-49, lines 54-57)
- *wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets transmitted from and to each user during a time interval.* (Bowman-Amuah, col.21, lines 22-26, lines 34-39; col.22, lines 27-32, lines 46-49, lines 54-57)

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18. With regard to claims 24-26, Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe disclose,

- *further comprising, based on said monitored network access usage, allocating network access to each user for a future time interval.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66)
- *wherein said step of allocating network access comprises allocating network access equally to the users.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66)
- *further comprising prioritizing the users for allocating network access.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66)

19. With regard to claims 27-33 and 54-57, Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe disclose,

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs specify respective minimum levels of network access for the users, and said step of prioritizing includes comparing said monitored network access usages for the users with the specified respective minimum levels of network access, and awarding priority to a user when said respective monitored network access usage for such user falls below the user's specified respective minimum level of network access.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)
- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs specify respective time-of-day (TOD) minimum levels of network access for users, and said step of prioritizing includes comparing said monitored network*

access usages for such users during the specified respective TOD with the specified respective TOD minimum levels of network access, and awarding priority to a user when said monitored network access usage during the specified respective TOD for such user falls below the user's specified respective TOD minimum level of network access (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs specify respective minimum levels of network access up to a maximum burstable levels with target probability for users, and said step of prioritizing includes comparing said monitored network access usage both with the respective minimum levels of network access for such users and with the respective maximum burstable levels of network access for such users, and comparing the instances the respective maximum levels of network access were obtained for such users out of all instances the respective maximum levels of network access were requested for such users. (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)*
- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs provide a respective fee for network access usage by 5 users, and said step of prioritizing comprises sorting such users based on each user's respective fee in decreasing order, with a user with a higher fee receiving priority over a user with a lesser fee. (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)*
- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs provide respective credits for levels of network access below respective*

guaranteed levels for users, and said step of prioritizing comprises sorting such users based on each user's respective credit in decreasing order, with a user with a higher credit receiving priority over a user with a lower credit. (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs specify respective minimum levels of network access for users, and said step of allocating network access comprises allocating network access to such users equal to each user's specified respective minimum level of network access. (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)*
- *wherein said prioritizing is based on fairness considerations. (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)*

20. With regard to claims 34-38, Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe disclose,

- *wherein the users are prioritized based on user throughput during a time interval, with a user with lesser throughput rate receiving priority over a user with greater throughput rate. (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)*
- *wherein the users are prioritized based on data loss for each user during a time interval, with a user with greater data loss rate having priority over a user with*

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lesser data loss rate. (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)

- *wherein the users are prioritized based on network access usage for a particular time of day, with a user with lesser network access usage for the particular time of day receiving priority over a user with greater network access usage for the particular time of day.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)
 - *wherein the users are prioritized based on both user throughput and data loss during a time interval.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)
 - *wherein users are prioritized based on an established minimum quality of service (QoS) standard.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54)
21. Claims 9-10, 12-13, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (US006542593B1), in view of Takagi (US005881231A), further in view of O'Flaherty et al. (US006253203B1), further in view of Tunncliffe et al. (US006272110B1), and further in view of Williams (US005867764A).
22. With regard to claims 9-10 and 12-13, Bowman-Amuah, Takagi, O'Flaherty, and Tunncliffe disclose,
- See *claim 1* rejection as detailed above.
- However, Bowman-Amuah, Takagi, O'Flaherty, and Tunncliffe do not explicitly disclose,

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a permanent basis.*
- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user with a maximum burstable level of network access with target probability.*
- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a temporary basis.*
- *wherein network access comprises bandwidth across the shared communications medium for consumption by each user in conveying data of the user.*

Williams teaches,

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a permanent basis. (Williams, col.4, lines 49-52; col.14, lines 11-14)*
- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user with a maximum burstable level of network access with target probability. (Williams, col.4, lines 49-52; col.14, lines 11-14)*
- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a temporary basis. (Williams, col.4, lines 49-52; col.14, lines 11-14)*
- *wherein network access comprises bandwidth across the shared communications medium for consumption by each user in conveying data of the user. (Williams, col.4, lines 49-52; col.14, lines 11-14)*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Williams with the teachings of Bowman-Amuah, Takagi, O'Flaherty, and Tunncliffe to enable the customer as well as the service provider to take the proper action based on the bandwidth usage information and the service level agreement.

23. With regard to claims 21-23, Bowman-Amuah, Takagi, O'Flaherty, and Tunncliffe disclose,

See *claim 1* rejection as detailed above.

However, Bowman-Amuah, Takagi, O'Flaherty, and Tunncliffe do not explicitly disclose,

- *wherein the shared communications medium is part of a Shared Access Carrier Network.*
- *wherein the Shared Access Carrier Network comprises a Cable Network and the shared communications medium comprises a coaxial cable.*
- *wherein the Shared Access Carrier Network comprises a wireless network.*

Williams teaches,

- *wherein the shared communications medium is part of a Shared Access Carrier Network.* (Williams, col.1, lines 25-58; col.7, lines 47-64)
- *wherein the Shared Access Carrier Network comprises a Cable Network and the shared communications medium comprises a coaxial cable.* (Williams, col.1, lines 25-58; col.7, lines 47-64)
- *wherein the Shared Access Carrier Network comprises a wireless network.* (Williams, col.1, lines 25-58; col.7, lines 47-64)

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Williams with the teachings of Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe to enable the customer as well as the service provider to take the proper action based on the bandwidth usage information and the service level agreement.

24. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (US006542593B1), in view of Takagi (US005881231A), further in view of O'Flaherty et al. (US006253203B1), further in view of Tunnicliffe et al. (US006272110B1), and further in view of Natarajan et al. (US006577597B1).

25. With regard to claims 18-19, Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe disclose,

See *claim 1* rejection as detailed above.

However, Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe do not explicitly disclose,

- *wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are dropped during a time interval.*
- *wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets of the user that are dropped during a time interval.*

Natarajan teaches,

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- *wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are dropped during a time interval.* (Natarajan, col.8, lines 26-38; col.14, line 66 – col.15, line 5; col.16, lines 32-55)
- *wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets of the user that are dropped during a time interval.* (Natarajan, col.8, lines 26-38; col.14, line 66 – col.15, line 5; col.16, lines 32-55)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Natarajan with the teachings of Bowman-Amuah, Takagi, O'Flaherty, and Tunnicliffe to enable the customer as well as the service provider to take the proper action based on the bandwidth usage information and the service level agreement.

Response to Arguments

26. Applicant's arguments with respect to *claims 1 and 48* have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

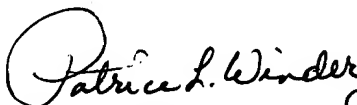
27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Duong whose telephone number is 571/272-3911. The examiner can normally be reached on M-F 7:30AM - 4:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason D. Cardone can be reached on 571/272-3933. The fax phone numbers for the organization where

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this application or proceeding is assigned are 571/273-8300 for regular communications
and 571/273-8300 for After Final communications.

Thomas Duong (AU2145)

January 22, 2007

 Jason D. Cardone
PATRICE WINDER *for* Supervisory PE (AU2145)
PRIMARY EXAMINER